ABSTRACT

Methods and systems are described that assist media players in rendering visualizations and synchronizing those visualizations with audio samples. In one embodiment, visualizations are synchronized with an audio stream using a technique that builds and maintains various data structures. Each data structure can maintain data that is associated with a particular pre-processed audio sample. The maintained data can include a timestamp that is associated with a time when the audio sample is to be rendered. The maintained data can also include various characteristic data that is associated with the audio stream. When a particular audio sample is being rendered, its timestamp is used to locate a data structure having characteristic data. The characteristic data is then used in a visualization rendering process to render a visualization.